

WHAT IS CLAIMED IS:

1. A data transfer device that transfers data, via a plurality of signal lines, comprising:

5 a data transfer timing signal output device that outputs a timing signal for the data transfer, by changing a frequency of the timing signal randomly for each of the plurality of signal lines.

2. The data transfer device according to claim 1, wherein the data transfer timing signal output device randomly changes at least one of a data transfer start timing and a data transfer end timing.

10 3. The data transfer device according to claim 1, wherein a flat harness connects the data transfer device to another device to which the data is transferred.

4. A data transfer device that transfers data using a system clock, comprising:

15 a transfer clock generating device that generates a transfer clock that determines a timing for the data transfer, based on the system clock; and

a transfer clock changing device that randomly changes a frequency of the transfer clock generated by the transfer clock generating device.

20 5. The data transfer device according to claim 4, wherein the transfer clock changing device randomly changes at least one of a timing for the transfer clock to make a transition to a high level and a timing for the transfer clock to make a transition to a low level.

6. The data transfer device according to claim 4, wherein a flat harness connects the data transfer device to another device to which the data is transferred.

25 7. A data transfer device that transfers data using a system clock, comprising:

a transfer clock generating device that generates a transfer clock that determines a timing for the data transfer, based on the system clock;

30 a delayed transfer clock generating device that shifts the transfer clock generated by the transfer clock generating device by a predetermined amount, to generate a plurality of delayed transfer clocks; and

a delayed transfer clock selecting device that randomly selects one of the delayed transfer clocks generated by the delayed transfer clock generating device;

wherein the data transfer device transfers the data in accordance with the delayed transfer clock selected by the delayed transfer clock selecting device.

8. The data transfer device according to claim 7, wherein a flat harness connects the data transfer device to another device to which the data is transferred.

5 9. A printing apparatus including a data transfer device that transfers print data to a print head, via a plurality of signal lines, comprising:

a data transfer timing signal output device that outputs a timing signal for the data transfer, by changing a frequency of the timing signal randomly for each of the plurality of signal lines

10 10. The printing apparatus according to claim 9, wherein the data transfer timing signal output device randomly changes at least one of a data transfer start timing and a data transfer end timing.

11. The printing apparatus according to claim 9, wherein a flat harness connects the data transfer device to the print head.

15 12. A printing apparatus including a data transfer device that transfers print data to a print head, using a system clock, comprising:

a transfer clock generating device that generates a transfer clock that determines a timing for print data transfer, based on the system clock; and

20 a transfer clock changing device that randomly changes a frequency of the transfer clock generated by the transfer clock generating device;

wherein the data transfer device transfers the print data to the print head, based on the transfer clock whose frequency is randomly changed by the transfer clock changing device.

25 13. The printing apparatus according to claim 12, wherein the transfer clock changing device randomly changes at least one of a timing for the transfer clock to make a transition to a high level and a timing for the transfer clock to make a transition to a low level.

14. The printing apparatus according to claim 12, wherein a flat harness connects the data transfer device to the print head.

30 15. A printing apparatus including a data transfer device that transfers print data to a print head, using a system clock, comprising:

a transfer clock generating device that generates a transfer clock that determines a timing for the data transfer, based on the system clock;

a delayed transfer clock generating device that shifts the transfer clock generated by the transfer clock generating device by a predetermined amount, to generate a plurality of delayed transfer clocks; and

5 a delayed transfer clock selecting device that randomly selects one of the delayed transfer clocks generated by the delayed transfer clock generating device;

wherein the data transfer device transfers the print data to the print head in accordance with the delayed transfer clock selected by the delayed transfer clock selecting device.

10 16. The printing apparatus according to claim 15, wherein a flat harness connects the data transfer device to the print head.

17. A method of transferring data, comprising:

generating a transfer clock that determines a timing for the data transfer;

15 shifting the transfer clock by a predetermined amount to generate a plurality of delayed transfer clocks;

randomly selecting one of the delayed transfer clocks; and

transferring the data in accordance with the randomly selected delayed transfer clock.